

IN THE CLAIMS

Claims 1-20 (Canceled)

21. (Original) A semiconductor device, comprising:
a co-doped germanium buried layer located over a doped substrate;
a doped epitaxial layer located over the co-doped germanium buried layer.
22. (Original) The semiconductor device as recited in Claim 21 wherein the co-doped germanium buried layer includes a p-type dopant.
23. (Original) The semiconductor device as recited in Claim 22 wherein the p-type dopant is boron.
24. (Original) The semiconductor device as recited in Claim 21 wherein a dopant concentration of the co-doped germanium buried layer ranges from about $1\text{E}15$ atoms/cm³ to about $1\text{E}20$ atoms/cm³, a dopant concentration of the doped substrate ranges from about $1\text{E}14$ atoms/cm³ to about $1\text{E}15$ atoms/cm³, and a dopant concentration of the doped epitaxial layer ranges from about $1\text{E}14$ atoms/cm³ to about $1\text{E}15$ atoms/cm³.
25. (Original) The semiconductor device as recited in Claim 21 wherein the co-doped germanium buried layer has a germanium concentration ranging from about $2\text{E}20$ atoms/cm³ to about $7\text{E}20$ atoms/cm³.

26. (Original) The semiconductor device as recited in Claim 21 wherein the co-doped germanium buried layer has a thickness ranging from about 1 μm to about 10 μm .

27. (Original) The semiconductor device as recited in Claim 21 wherein the doped substrate, co-doped germanium buried layer, and the doped epitaxial layer collectively have a thickness ranging from about 2 μm to about 20 μm .

Claims 28-36 (Canceled)

37. (Original) An integrated circuit, comprising:
a co-doped germanium buried layer located over a doped substrate;
a doped epitaxial layer located over the co-doped germanium buried layer;
transistors located over the doped epitaxial layer; and
interconnects located within interlevel dielectric layers located over the transistors, which connect the transistors to form an operational integrated circuit.

38. (Original) The integrated circuit as recited in Claim 37 wherein the co-doped germanium buried layer further includes boron.

39. (Original) The integrated circuit as recited in Claim 37 wherein the co-doped germanium buried layer has a germanium concentration ranging from about $2\text{E}20$ atoms/ cm^3 to about $7\text{E}20$ atoms/ cm^3 .